APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/847,609	05/01/2001	Juan J. Ibarra	FORE-85	5593

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Ansel M. Schwartz
One Sterling Plaza
Suite 304
201 N. Craig Street
Pittsburgh, PA 15213

EXAMINER
THAI, CANG G

ART UNIT	PAPER NUMBER
3629	

DATE MAILED: 07/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	09/847,609	IBARRA ET AL.
	Examiner	Art Unit	
	Cang G. Thai	3629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>01 May 2001</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is

     closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-12</u> is/are pending in the application.

     4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-12</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

     a)☐ All   b)☐ Some * c)☐ None of:

       1.☐ Certified copies of the priority documents have been received.

       2.☐ Certified copies of the priority documents have been received in Application No. _____.

       3.☐ Copies of the certified copies of the priority documents have been received in this National Stage

         application from the International Bureau (PCT Rule 17.2(a)).

     * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
     Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
     Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 101

1.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

2.   Claims 1-4 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

The basis of this rejection is set forth in a two prong test of:

(1)   whether the invention is within the technological arts; and

(2)   whether the invention produces a useful, concrete, and tangible result.

For a claimed invention to be statutory, the claimed invention must be within the technological arts. Mere idea in the abstract (i.e. abstract ideas, law of nature, natural phenomena) that do not apply, involve, use, or advance the technological arts fail to promote the "progress of science and the useful arts" (i.e. physical sciences as opposed to social sciences for example), and therefore are found to be non-statutory subject matter. For a process claim to pass muster, the recited process must somehow apply, use or advance the technological arts.

In the present case, Claim 1 is directed to "a method for estimating labor costs associated with producing a printed circuit board assembly comprising the steps of:

projecting volume for a predetermined period of time for the printed circuit board assembly;

calculating a cost of conversion at a predetermined percentage of surface mount technology components of the printed circuit board assembly; and

generating a cost of conversion for the printed circuit board assembly based on

actual percentage of surface mount technology components of the printed circuit board

assembly from the cost of conversion at the predetermined percentage".

In the present case, Claim 1 does not require any technology. The recited steps

for estimating labor costs does not apply, involve, use, or advance the technological arts

since all of the recited steps can be done with no technology at all. The recited steps

only constitute an idea for estimating labor costs.

Additionally, for a claimed invention to be statutory, the claimed invention must

produce a useful (specific utility), concrete (repeatability and/or implementation without

undue experimentation), and tangible (a real or actual affect) result.

Claim Rejections - 35 USC § 112

3.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly
> claiming the subject matter, which the applicant regards as his invention.

4.   Claims 1-12 rejected under 35 U.S.C. 112, second paragraph, as being indefinite

for failing to particularly point out and distinctly claim the subject matter which applicant

regards as the invention.

In claim 1, it is not clear on how the steps are implemented to achieve the scope

of the claimed invention? Applicant is recommended to insert an objective of the

claimed invention such as <u>labor costs</u> into the body of the claim to improve clarity. It is

not clear on the estimating labor costs in the body of the claim and how it is related to

the estimating labor costs as mentioned in the preamble.   It is also not clear on step

(a), step (b), and step (c). It appears that they should be related, but no positive

language showing the relationship has been shown. It is also not clear on how

projecting volume can be related to the estimating labor cost?

Claim Rejections - 35 USC § 102

5.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6.   Claims 1-12 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S.

Patent No. 5,960,417 (PAN ET AL).

As for Claim 1, PAN discloses a method for estimating labor costs associated

with producing a printed circuit board assembly comprising the steps of:

projecting volume for a predetermined period of time for the printed circuit board

assembly {Column 1, Lines 37-41, wherein this reads over "the steps are provided

wherein the function of preparing data for use in costing includes entering cost data into

the cost computer and forming tables of data therein, and downloading data from the

data base computer into tables in the cost computer"};

calculating a cost of conversion at a predetermined percentage of surface mount

technology components of the printed circuit board assembly {Column 1, Lines 41-42,

wherein this reads over "data is downloaded from the data base computer to the cost

computer"}; and

generating a cost of conversion for the printed circuit board assembly based on

actual percentage of surface mount technology components of the printed circuit board

assembly from the cost of conversion at the predetermined percentage {Column 1,

Lines 42-43, wherein this reads over "a sequence of steps is provided for defining global

variables"}.

As for Claim 2, PAN discloses a method as described in Claim 1, wherein the

predetermined percentage is 90% and the calculating step includes the step of inputting

the projected annual volume for the printed circuit board assembly into the formula Cost

of Conversion {Column 4, Lines 61-63, wherein this reads over "the required hours are

obtained by a set of data defining the product mix and the parts flow of the product

mix"}.

As for Claim 3, PAN discloses a method as described in Claim 2, wherein the

generating step includes the step inserting the actual percentage of surface mount

technology components of the printed circuit board assembly and the cost conversion at

the predetermined percentage into the formula $CPPx {Columns 4-5, Lines 64-66 and

Lines 1-2, wherein this reads over "due to different characteristics of cost elements, the

cost elements of the manufacturing process whose cost structure is being dealt with by

this invention are six elements comprising direct material, direct labor, equipment,

depreciation, overhead, batch type overhead, and mask usage expense"} .

As for Claim 4, PAN discloses a method for building a printed circuit board

assembly comprising the steps of:

estimating labor costs associated with producing the printed circuit board

assembly with a computer as a function of volume of the printed circuit board assembly

produced per unit time and percentage of surface mount technology components of the

printed circuit board {See Fig. 3A, Element C10 and Column 8, Lines 43-45, wherein this reads over "the resulting output data is available as indicated by line 61 for use in the direct material step C10 which is described below in section C(2)"}; and

producing the printed circuit board assembly {See Fig. 4, Element 127 and Column 16, Lines 26-27, wherein this reads over "the output of step 125 is connected to cost per part step 127"}.

As for Claim 5, PAN discloses an apparatus for estimating labor costs associated with producing a printed circuit board assembly comprising:

a computer having means for estimating costs associated with labor portion of manufacturing the printed circuit board assembly {See Fig. 1B, Element 10 and Column 5, Lines 44-46, wherein this reads over "database computer system 10 connected by line 11 to a microcomputer 9 (for example a PC (Personal Computer)"}; and

an input device for inputting information for estimating the costs into the computer {See Fig. 1B, Element KB2 and Column 5, Lines 51-54, wherein this reads over "a keyboard KB2 connected to CPU 7 by line 4 (a printer and other optional components which may be included but are not essential are not shown for convenience of illustration)"}.

As for Claim 6, PAN discloses an apparatus as described in Claim 5 wherein the estimating means includes:

means for calculating cost conversion at a predetermined percentage of surface mount technology components of the printed circuit board assembly {See Fig. 1A, Element 9}; and

means for generating a cost of conversion for the printed circuit board assembly based on actual percentage of surface mount technology components of the printed circuit board assembly from the cost of conversion at the predetermined percentage {See Fig. 2, Element 51}.

As for Claim 7, PAN discloses an apparatus as described in Claim 6 wherein the predetermined percentage is 90% and the calculating means calculates the cost of conversion at the predetermined percentage based on the formula Cost of Conversion where volume is a projected annual volume for the printed circuit board assembly {See Fig. 3B, Element D20}.

As for Claim 8, PAN discloses an apparatus described Claim 7 wherein the generating means generates the cost of conversion for the printed circuit board assembly based on the formula $CPPx {See Fig. 3B, Element D30}.

As for Claim 9, PAN discloses a computer program product for enabling a processor computer to estimate costs associated with producing a printed circuit board assembly comprising:

a computer readable program code means for enabling the computer to estimate costs with labor portion of manufacturing the printed circuit board assembly {See Fig. 4, Element 110}.

As for Claim 10, PAN discloses a computer program product as described in Claim 9 wherein the code means includes means for calculating a cost of conversion a predetermined percentage of surface mount technology components of the printed circuit board assembly {See Fig. 4, Element 111}; and

means for generating a cost of conversion for the printed circuit board assembly

based on actual percentage of surface mount technology components of the printed

circuit board assembly from the cost of conversion at the predetermined percentage

{See Fig. 4, Element 116}.

As for Claim 11, PAN discloses a computer program product as described in

Claim 10 wherein the predetermined percentage is 90% and the calculating means

calculates the cost conversion at the predetermined percentage based on the formula

Cost of Conversion {See Fig. 4, Element 121}

where volume is a projected annual volume for the printed circuit board assembly.

As for Claim 12, PAN discloses a computer program product as described in

Claim 11 wherein the generating means generates the cost of conversion for the printed

circuit board assembly based on the formula $CPPx {See Fig. 4, Element 127}.

Conclusion

7.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure.

I.   U.S. Patent:

     1)   U.S. Patent No. 6,775,647 (EVANS ET AL) is cited to teach a method and

          system for estimating manufacturing costs,

     2)   U.S. Patent No. 5,249,120 (FOLEY) is cited to teach an automated

          manufacturing costing system and method, and

     3)   U.S. Patent No. 6,343,285 (TANAKA ET AL) is cited to teach an
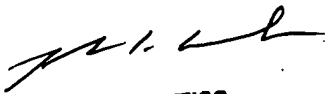
          estimation and designing supporting apparatus.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cang (James) G. Thai whose telephone number is (571) 272-6499. The examiner can normally be reached on 6:30 AM - 3:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Weiss can be reached on (571) 272-6812. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CGT
7/20/2005

JOHN G. WEISS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600